



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,288	09/24/2001	Kenneth E. Knapp	RR-1717	9649

24501 7590 11/21/2003

MARK A LAUER
6601 KOLL CENTER PARKWAY
SUITE 245
PLEASANTON, CA 94566

EXAMINER

OMETZ, DAVID LOUIS

ART UNIT	PAPER NUMBER
2653	

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,288

Applicant(s)

KNAPP ET AL.

Examiner

David L. Ometz

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

Art Unit: 2653

1. Applicant's election without traverse of Group I, claims 1-17 in Paper No. 4 is acknowledged.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 13 sets forth that the lead adjoins the sensor at the first location while the lead does not adjoin the sensor at the second location. The locations appear to be reversed as the first location is distal to the sensor as defined in independent claim 10, and the second location is adjacent the track width (i.e. sensor) as also defined in independent claim 10. Therefore, it would seem that the lead is adjacent the sensor at the second location and not adjoining the sensor at the first location.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Bharthulwar (US Pat 5847904). Bharthulwar shows an electromagnetic device in figures 3A-3B that has: a plurality of adjoining active layers (GMR or SV layers, see col. 7, lines 20-21) disposed over a substrate. With regard to the claimed process steps involving the first and second mask layers, a "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3, CCPA, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA

Art Unit: 2653

5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Therefore, since independent claim 17 is a product claim, the claimed first and second mask layers involved in the intermediate processing of the sensor are not given patentable weight.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bharthulwar (US Pat 5847904). Bharthulwar shows an electromagnetic device in figures 3A-3B that has: a plurality of adjoining active sensor layers (as per claim 8, GMR or SV layers, see col. 7, lines 20-21) disposed over a substrate and adjacent to a media facing surface a pair of electrically conductive layers 74,76 (leads) disposed adjacent to said media facing surface and adjoining at least one of said sensor layers, wherein said electrically conductive layers are separated from each other by a first distance "TW" at a first location adjacent to said media-facing surface, and said electrically conductive layers are separated from each other by a second distance (d+d+TW) at a second location recessed from said media-facing surface, such that said second distance is at least twice (cl. 2, 4 times) said first distance. The profile of the conductive layers 74,76 has a substantially serpentine wineglass shape (see col. 5, lines 30-34). The electrically conductive

Art Unit: 2653

layers can include magnetic layer 66,68 with a magnetic moment for providing longitudinal biasing as claimed in claim 5. As per claim 10, Bharthulwar shows an electromagnetic device comprising: a solid body having a leading end separated from a trailing end in a lengthwise direction, a media-facing surface separated from a non-media-facing surface in a heightwise direction, and a pair of sides separated from each other in a widthwise direction, a plurality of adjoining sensor layers (GMR or SV) extending adjacent to said media facing surface, a pair of serpentine, wineglass shaped electrically conductive leads 74,76 (magnetic when including longitudinal biasing layers 66,68) disposed adjacent to said media facing surface and separated from each other by a track width "TW", at least one of said leads having a height measured in said heightwise direction, wherein said lead height measured at a first location (fig. 3A, far outer edges of leads 74, 76) that is distal to said track width is at least twice (4 times, cl. 12) said lead height "h" measured at a second location that is adjacent to said track width "TW". However, Bharthulwar is silent as to the TW width (cl. 3 and cl. 10 less than one-half micron, "submicron") and does not disclose the height at the second distance ($d+d+TW$) being less than 10 microns.

With regard to the submicron trackwidth, the examiner takes Official Notice that the use of submicron track widths are old and well known in the art and therefore no unobvious result is seen to exist in using a submicron trackwidth for the "TW" of Bharthulwar.

With regard to the second distance being at a point less than 10 microns from the media facing surface, this is akin to optimizing the values of a result effective variable (in this case the distance away from the media facing surface of the "flare point" for the leads will effect the resistance of the leads). Therefore, determining the optimal value of a result effective variable

Art Unit: 2653

would have been obvious and ordinarily within the skill of the art. **In re Boesch**, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited all show particular shaped lead structures for magnetoresistive heads.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296. The examiner can normally be reached on M-W, 6:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.



David L. Ometz
Primary Examiner
Art Unit 2653

DLO
11/17/03